Document details

‹ Back to results | 1 of 3 Next ›

CSV export Download Print E-mail Save to PDF Save to list More... ›

Full Text View at Publisher

Malaysian Journal of Analytical Sciences
Volume 21, Issue 5, October 2017, Pages 1176-1182

Stereoselective reduction of 1-benzyl-3,3-dimethyl-5-methylenepyrrolidine-2,4-dione using sodium borohydride with selected metal chlorides (Article)

[Tindak balas penurunan stereoselektif 1-benzil-3,3-dimetil-5-metilenapirolidina-2,4-dion menggunakan natrium borohidrat dengan logam klorida terpilih]

Jumali, N.S.[a] ✉, Shaameri, Z.[a], Mohamad, H.[b], Hamzah, A.S.[a]

[a]Department of Chemistry, Kulliyyah of Science International Islamic Universiti Malaysia, Indera Mahkota, Kuantan, Malaysia
[b]Institute of Science, Universiti Teknologi Mara, Shah Alam, Selangor, Malaysia
[c]Institute of Marine Biotechnology, Universiti Malaysia Terengganu, Kuala Nerus, Terengganu, Malaysia

Abstract

1-benzyl-3,3-dimethyl-5-methylenepyrrolidine-2,4-dione is an intermediate product produced in the synthesis towards the natural bioactive compound, zoptellamide A. This compound was synthesized via four main steps including dimethylations, addition with CuBr2, cyclization with benzylamine and reaction with formaldehyde. The corresponding intermediate was an α,β-unsaturated ketone having exo-alkene group, and it was subjected to reduction using sodium borohydride and selected metal chlorides. In this study, the effect and the hydride transfer mechanism of sodium borohydride-metal chlorides system in the reduction of 1-benzyl-3,3-dimethyl-5-methylenepyrrolidine-2,4-dione was investigated based on the stereochemical outcome of the product. © 2017, Malaysian Society of Analytical Sciences. All rights reserved.

View references (6)

Reaxys Database Information

View Compounds

Author keywords

Exo-alkene | Metal borohydride | Reduction | Stereoselective

Funding details

Funding number	Funding sponsor	Acronym
	International Islamic University Malaysia	IIUM
	Universiti Teknologi MARA	UiTM

Funding text

We would like to thank the Universiti Teknologi MARA (UiTM) for providing the facilities to conduct this research, and also International Islamic University Malaysia (IIUM) and Kementerian Pengajian Tinggi Malaysia for the fellowship.

ISSN: 13942506
Source Type: Journal
Original language: English

DOI: 10.17576/mjas-2017-2105-22
Document Type: Article
Publisher: Malaysian Society of Analytical Sciences

References (6)

View in search results format ›

All CSV export Print E-mail Save to PDF Create bibliography

1 Bream, R.N., Ley, S.V., McDermott, B., Procopiou, P.A.